

In re Patent Application of:  
Ockenfuss ET AL.  
Serial No. 10/004,142  
Filed: November 14, 2001

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REMARKS

Claims 22 to 26 and 29 to 32 are currently pending. Claims 22 to 26 and 29 to 32 have been rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent No. 5,080,739 (Fernandez et al) in view of United States Patent No. 6,469,847 (Fan et al), alone or in combination with United States Patent No. 5,982,488 (Shirasaki).

The claims of the application have been amended to overcome the objections of the Examiner and to better define the invention in light of the prior art. In particular, claim 22 has been amended to clarify that the multi-layer thin-film interference filter has been released from its substrate to become a "freestanding" filter before the first frame member is attached. This feature is both novel and non-obvious, as it is essential in relieving the high intrinsic internal stress of the filter.

The method disclosed in the Fernandez reference includes mounting the frame 14 onto the film coating 10 **prior to** the removal of the substrate 12. This is an essential element of the Fernandez invention to prevent bending of free-floating films (Col 4, lines 12 to 15). However, according to the present invention the filter must be freestanding before the frame member is added to ensure that all internal stresses are relieved, i.e. adding the frame while the filter is still under internal stresses caused by the substrate is detrimental to the optical performance of the filter.

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Moreover, as the Examiner admits, the frame 14 in the Fernandez reference has nothing to do with thermal compensation, i.e. relative coefficients of thermal expansion are never discussed, and is simply used as a support and to facilitate manipulation of the film coating 10.

At this time Applicant would like to draw the Examiner's attention to the attached Declaration, which attests to the fact that the Fan et al reference and the present application were commonly owned by JDS Uniphase Corp. at the time of the invention of the present invention, and is therefore not citable under 35 USC 103.

The device disclosed in Shirasaki does not include a multilayer thin-film filter having been released from a substrate to relieve internal stresses, thereby forming a freestanding filter. The filter disclosed in Shirasaki is a conventional etalon including a transparent plate 201 with a reflecting film 202 on opposite sides thereof. Accordingly, a substrate has never been removed therefrom to relieve internal stresses.

The invention according to the present invention lies in the combination of a freestanding multilayer thin-film filter, removed from its substrate to eliminate internal stresses forming, mounted on a frame, which provides a structural base for the filter, as well as providing the necessary thermal stabilization. None of the cited references disclose thermal stabilization of a multilayer thin-film filter removed from its original substrate to become freestanding. Accordingly, no reference alone or in combination with another reference

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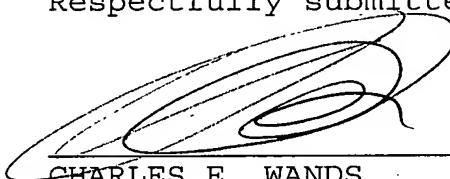
discloses or even infers the combination according to the present invention.

As such, it is respectfully submitted that all of the claims remaining in the application are in condition for allowance. Early and favorable consideration would be appreciated.

Should any minor informalities need to be addressed, the Examiner is encouraged to contact the undersigned attorney at the telephone number listed below.

Please charge any shortage in fees due in connection with the filing of this paper, including Extension of Time fees, to Deposit Account No. 50-1465 and please credit any excess fees to such deposit account.

Respectfully submitted,



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